ORDER NO. AD9702017C2

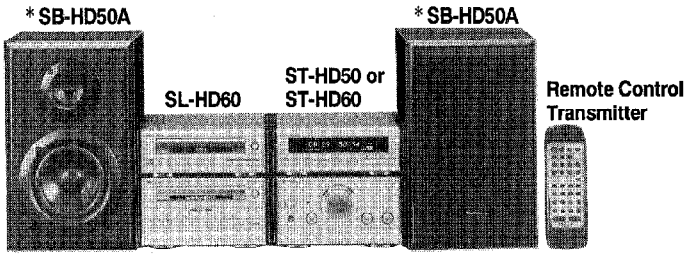
Service Manual

Amplifier

Amplifier

SE-HD50

System: SC-HD50



Colour

(N) ..... Gold

Areas

(E) ..... Europe
(EG) ..... Germany and Italy
(EB) ..... Great Britain
(EP) ..... East Europe and Russia

Because of unique interconnecting cables, when a compact requires service, send or bring in the entire system.

Specifications

Amplifier Section

Power output
DIN 1 kHz, THD 1 %, both channel driven: 2 × 23 W (6 ohm)
RMS 1 kHz, THD 10 %, both channel driven: 2 × 30 W (6 ohm)
Total harmonic distortion
Rated power at 1 kHz: 1 % (6 ohm)
Half power at 1 kHz: 0.09 % (6 ohm)
Load impedance: 6 ohm
S/N (rated power): 90 dB

General

Power consumption: 90 W
Power supply
[for (E, EG, EP) area]: 230 V, AC 50 Hz
[for (EB) area]: 230 – 240 V, AC 50 Hz
Dimensions: 196(W)/103(H)/255(D) mm
Weight: 3.5 kg

Notes:
1. Specifications are subject to change without notice.
2. Weight and dimensions are approximate.
3. Total harmonic distortion is measured by the digital spectrum analyzer.

System/SC-HD60:
Tuner: ST-HD50 or ST-HD60, Compact Disc Player: SL-HD60, **Amplifier: SE-HD50**, Cassette Deck: RS-HD70, Speakers: SB-HD50A

Notes: *..... Made in PAES

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

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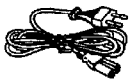
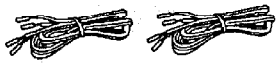
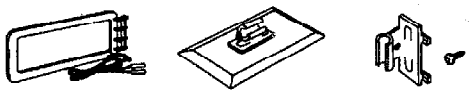
■ Accessories

- AC power supply cord ..... 1 pc.
  For (EB) area (RJA0053-1X)
  For (E,EG,EP) area (RJA0019-2K) 
- Remote control transmitter ..... 1 pc.
  For (E, EB, EP) area (RAK-CH215WH)
  For (EG) area (RAK-CH193WH)
- Speaker cords ..... 2 pcs.
  (REE0393) 
- Remote control batteries ..... 2 pcs.
  Note: These are available on sales route.
- AM loop antenna set (RSA0021)
  AM loop antenna ..... 1 pc.
  Antenna holder with stand ..... 1 pc.
  Antenna holder without stand ..... 1 pc.
  Screw ..... 1 pc.
  
- FM indoor antenna ..... 1 pc.
  (RSA0007)
- Antenna plug adaptor ..... 1 pc.
  For (EB) area only (SJP9009)
- Flat cable (Long thick) ..... 1 pc.
  (REX0812)
- Flat cable (Long thin) ..... 1 pc.
  (REX0813)
- Flat cable (short) ..... 1 pc.
  (REX0608)

■ Before Repair

(1) Turn off the power supply. Using a 10 Ω, 10 W resistor, connect both ends of power supply capacitors (C701, C702) in order to discharge the voltage.

(2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230 V.

Area	(E) (EG) (EP)	(EB)
Power supply voltage	AC 230 V	AC 240 V
Consumed current 50 Hz	50 ~ 170 mA	50 ~ 170 mA

■ Protection Circuitry

The protection circuitry may have operated if either of the following conditions is noticed:

* No sound is heard when the power is switched ON.
* Sound stops during a performance.

The functions of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.
If this occurs, follow the procedure outlined below:

1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

■ Caution for AC Main Lead

[(EB) area code model only]

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⓐ or the BSI mark ♆ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFETY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

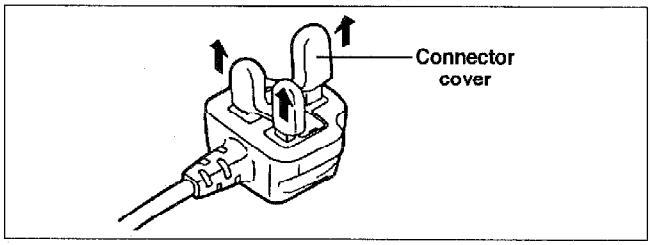
This apparatus was produced to BS 800.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol ⏚ .

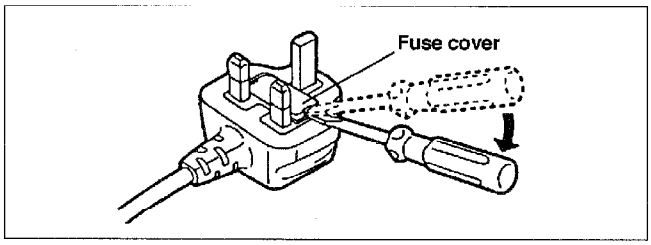
Before use

Removal the connector cover as follows.

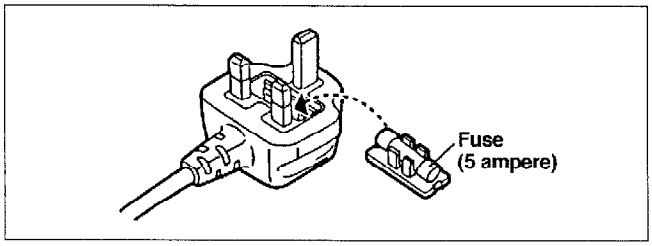


How to replace the fuse

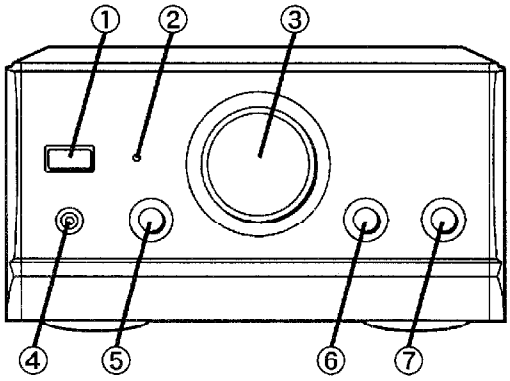
1. Remove the fuse cover with a screwdriver.



2. Replace the fuse and attach the fuse cover.



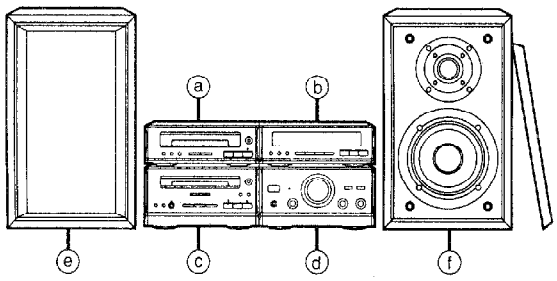
■ Location of Controls



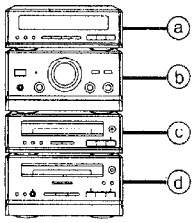
① **Power "STANDBY ⏻/ON" switch (POWER, STANDBY ⏻/ON)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
② **Standby indicator (STANDBY)**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is terned on.
③ **Volume control (VOLUME)**
④ **Headphones jack (PHONES)**
⑤ **Balance control (BALANCE)**
⑥ **Bass control (BASS)**
⑦ **Treble control (TREBLE)**

■ Installation

A



B



Locating the components

Side-by-side set-up A

ⓐ CD player
ⓑ Tuner
ⓒ Cassette deck
ⓓ Amplifier
ⓔ Left speaker
ⓕ Right speaker

Stacking B

ⓐ CD player
ⓑ Tuner
ⓒ Cassette deck
ⓓ Amplifier

Caution:
Use the speakers only with the recommanded system. Failure to do so many lead to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occured or if you experience a sudden in performance.

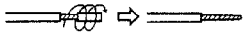
Note

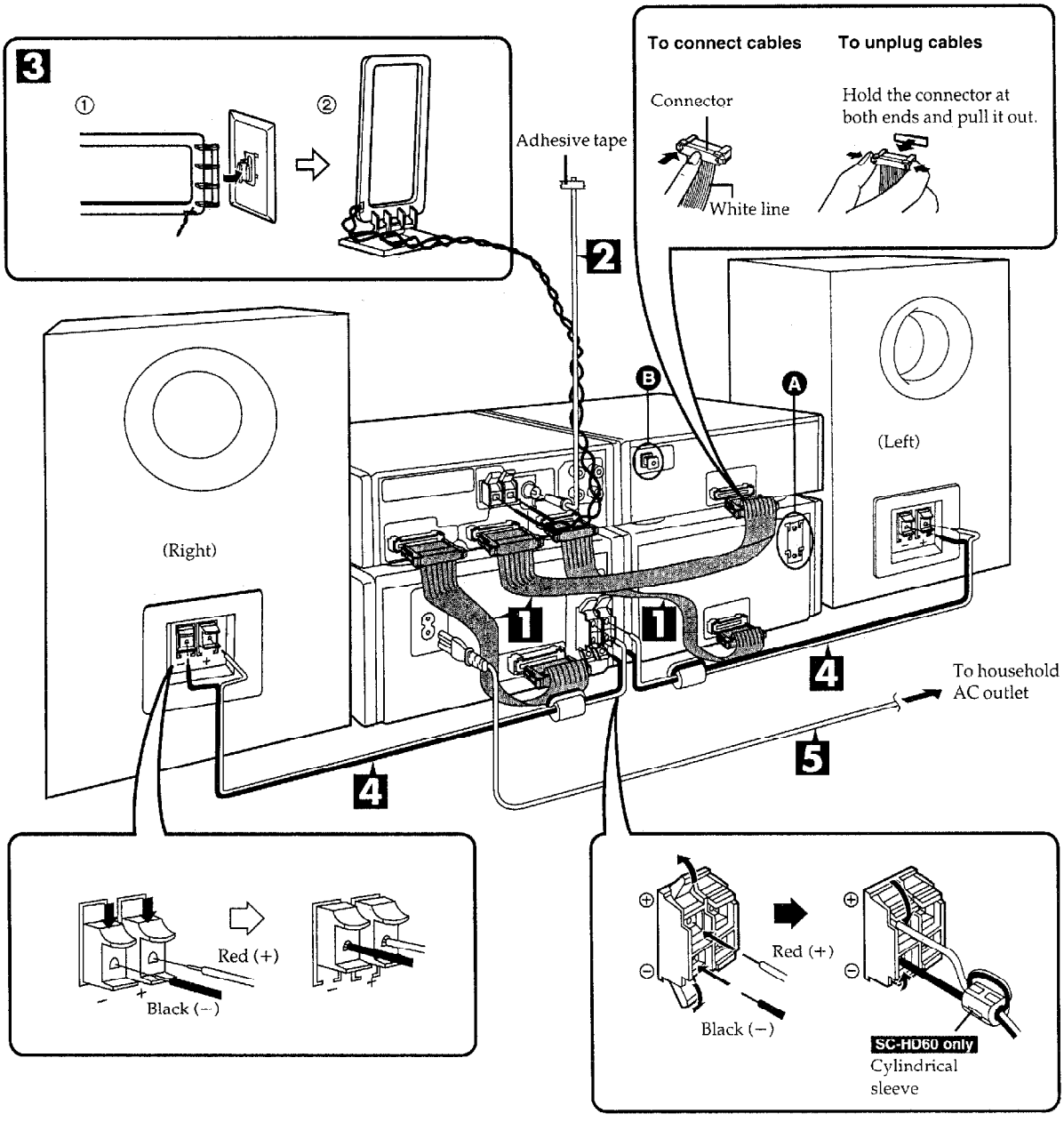
Left and right speakers are exactly the same.

■ Connections

Connect the AC mains lead after you have connected all other cables.

To prepare the AM loop antenna wire and speaker cords, twist the vinyl cover tip and pull off.





1 Connect the flat cables.

1. Connect the short flat cable between the terminals A1 and A2.
2. Connect the long thick flat cable between the terminals B1 and B2.
3. Connect the long thin flat cable between the terminals C1 and C2.

Note

Do not try connecting or disconnecting the flat cables while the power is switched to ON.

After connection:

Keep cables as flat against the back of the unit as possible.

2 Connect the FM indoor antenna.

Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

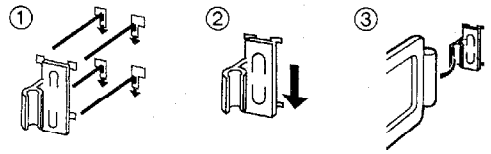
Note

When you cannot get a good reception with this FM indoor antenna, we recommend you install an FM outdoor antenna (not included).

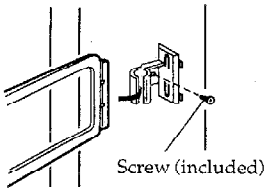
3 Connect the AM loop antenna.

You can also install the AM loop antenna on the rear of the cassette deck, wall or pillars.
In this case, be sure to use the antenna holder with the hole.

•To install on the cassette deck rear (Ⓐ)



•To install on walls or pillars



Note

To minimize noise pickup, bundle the loop antenna cord using a tape or so to keep the flat cables away from the AM loop antenna cord.

4 Connect the right (R) and left (L) front speaker cables.

Note

- For SC-HD60 connect the end of the speaker cable with the cylindrical sleeve to the amp side.
- To prevent damage to circuitry, never short-circuit positive (+) and negative (−) speaker wires.
- Be sure to connect only positive (red) wires to positive (+) terminals and negative (black) wires to negative (−) terminals.

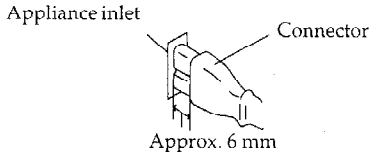
These speakers are made so as to be able to be used in close proximity to the TV, but irregular coloring may result due to how the system is placed. If such distortion occurs, turn off the TV for sometime between 15 and 30 minutes. The demagnetizing function of the TV will eliminate the distortion. If the irregular coloring is still visible, then move the speaker further away from the TV. Please note that if there is a magnetic object near the TV, irregular coloring may result due to the interaction between the TV and the speakers.

5 Connect the AC mains lead.

(United Kingdom only)
BE SURE TO READ THE CAUTION FOR AC MAINS LEAD ON PAGE 4 BEFORE PROCEEDING TO STEP 5.

Insertion of Connector

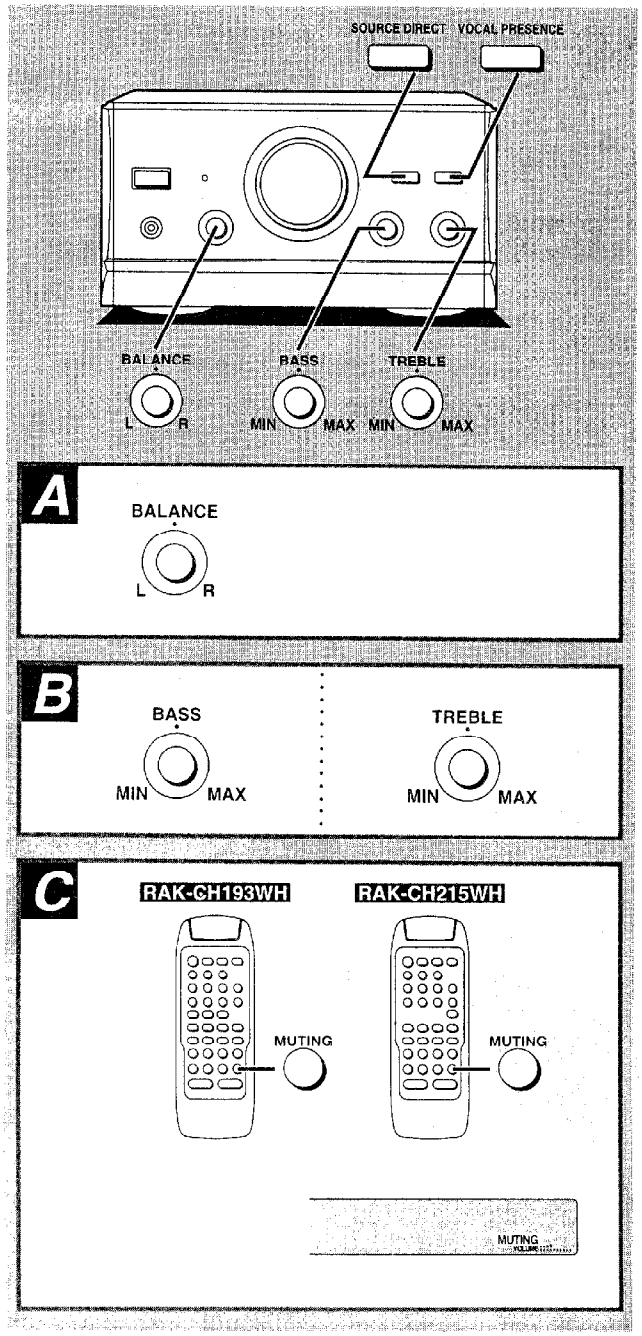
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.



Connections to "DIGITAL OPTICAL OUT" terminal: (Ⓑ)

Before using this terminal, take out the dust protection cap.
Connect an optical-fiber cable to the optical input terminal of the DCC or minidisc deck (cables and components not included).

■ Changing the Tone



To adjust the sound balance A

Turn BALANCE to adjust the left/right sound balance.

Note

The effect works only with playback. It cannot be used in recording.

To adjust the tone quality B

Turn BASS to adjust the low-frequency sound.

Turn TREBLE to adjust the high-frequency sound.

Note

The effect works only with playback. It cannot be used in recording.

■ Convenient Functions

To mute the volume C

This feature is convenient when you have a telephone call, etc.

by remote control only

Press MUTING.

"MUTING" will light.

To cancel, press MUTING once again. ("MUTING" goes out.)
To cancel from the amplifier, reduce the volume level to the minimum position (-- dB) and then reset to the desired volume.

For your reference:

When the system is turned off, the muting operation will be automatically canceled.

■ Operation Checks and Main Component Replacement Procedures

NOTE

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**
4. **Refer the parts No. on the page of "Main component Replacement Procedures", if necessary.**

• Contents

• Checking Procedures for each P.C.B. Page.

1.Checking for the operation P.C.B.. ..... 8,9.

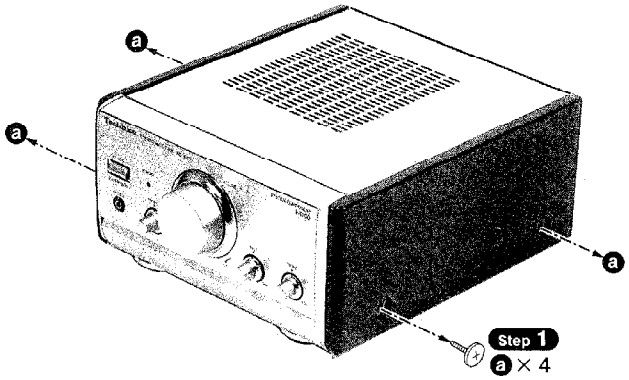
2.Checking for the protection P.C.B. and main P.C.B.. ..... 9,10.

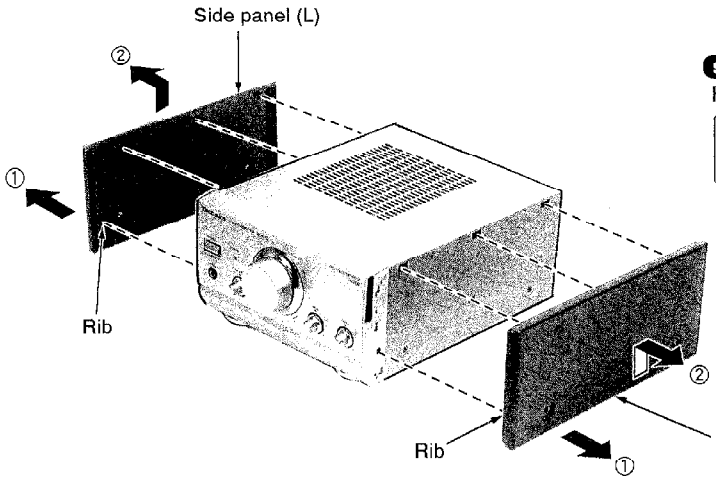
• Main Component Replacement Procedures

1. Replacement for the power IC. ..... 10.

■ Checking Procedure for each P.C.B.

1. Checking for the operation P.C.B.

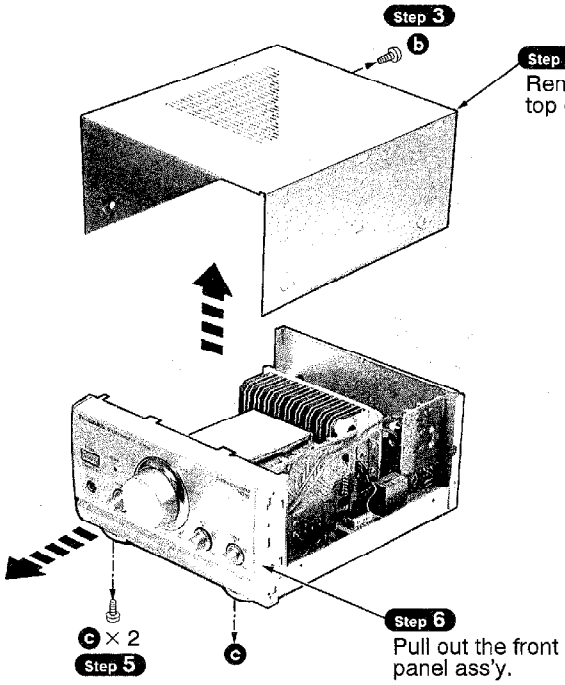




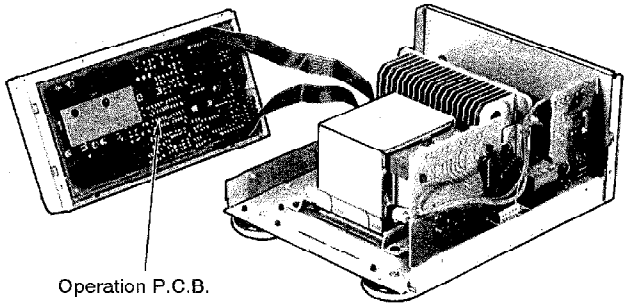
Step 2

Remove the side panel (L),(R).

• Spread the lower part of the side panels in the direction of arrow (➡①) to release the ribs, and then lift to remove the side panels (➡②).



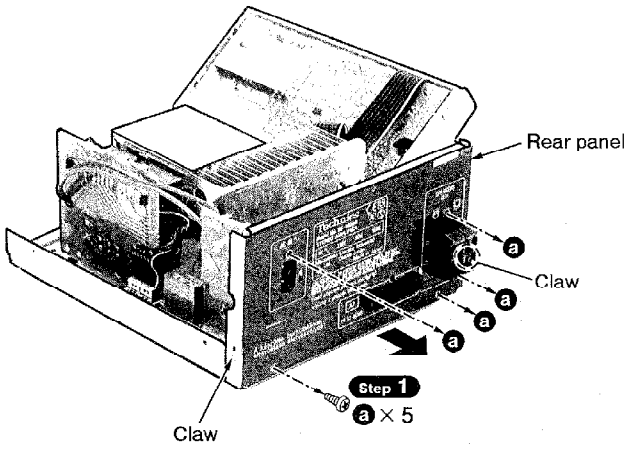
• **Check the operation P.C.B. as shown below.**

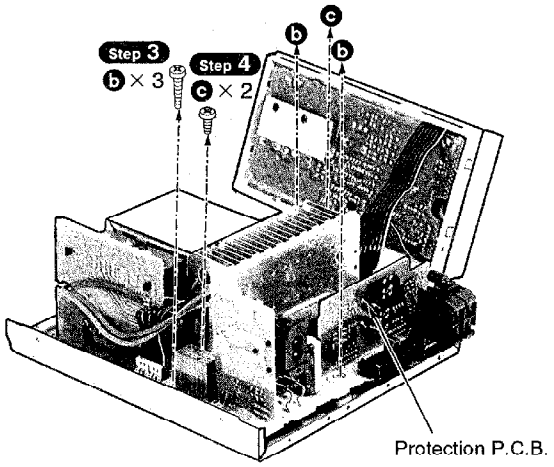


2. Checking for the protection P.C.B. and main P.C.B.

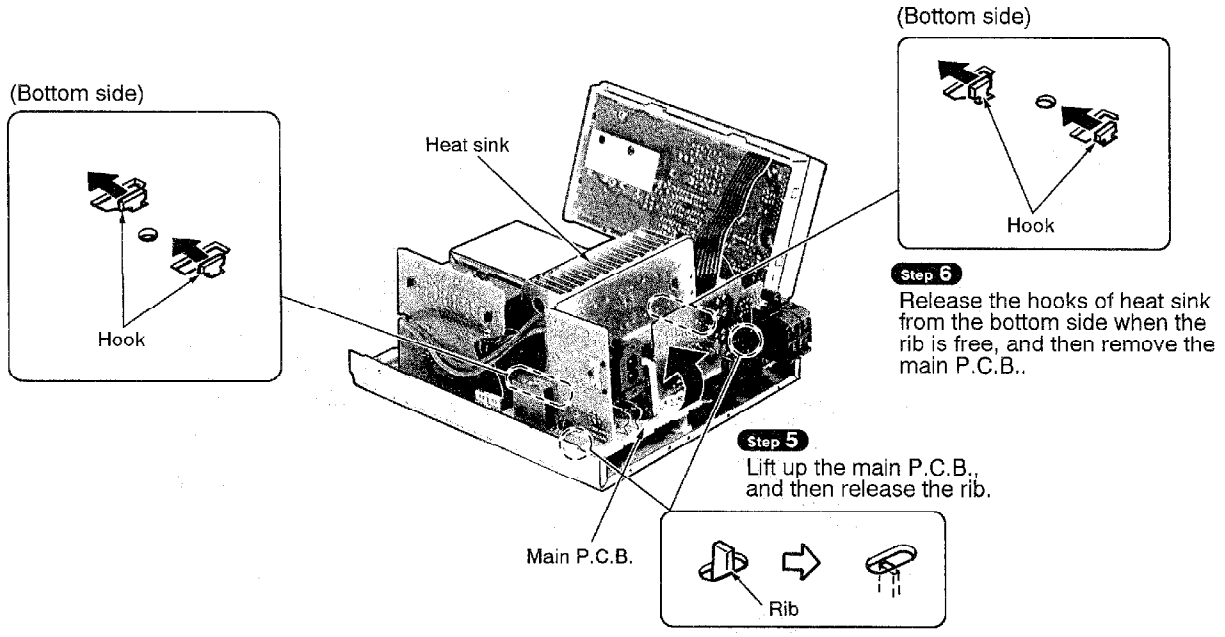
• Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B. on pages 8 and 9.

• **Check the protection P.C.B. as shown below.**

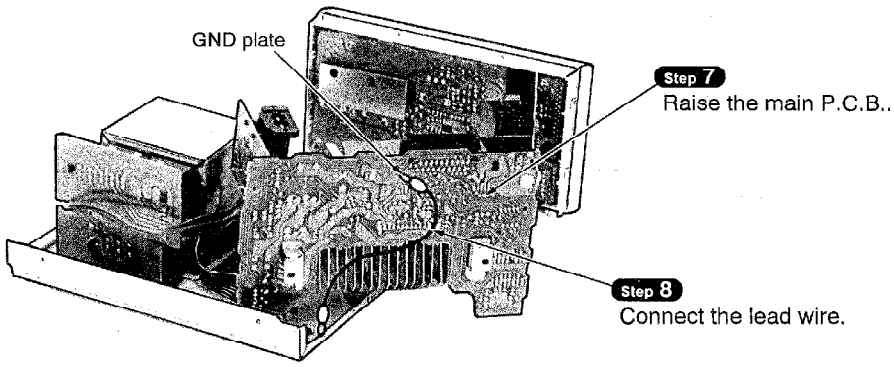




Step 2
Release the 2 claws, and then remove the rear panel.


(Bottom side)
Hook
Heat sink
(Bottom side)
Hook
Step 6
Release the hooks of heat sink from the bottom side when the rib is free, and then remove the main P.C.B..
Step 5
Lift up the main P.C.B., and then release the rib.
Main P.C.B.
Rib

• **Check the main P.C.B. as shown below.**



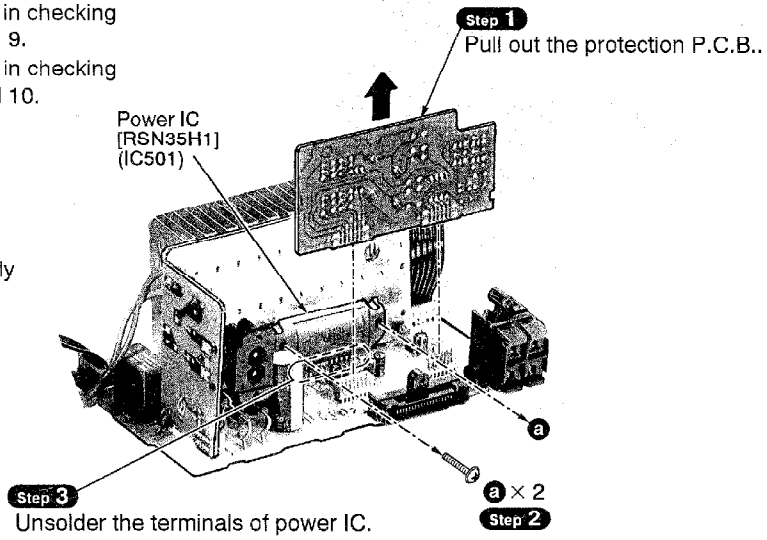
■ Main Component Replacement Procedures

1. Replacement for the power IC

- Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B. on pages 8 and 9.
- Follow the Step 1 ~ Step 6 of the item 2 in checking procedure for each P.C.B. on pages 9 and 10.

NOTE

When mounting the power IC apply silicone conpound (RFKX0002) to the rear side of power IC.



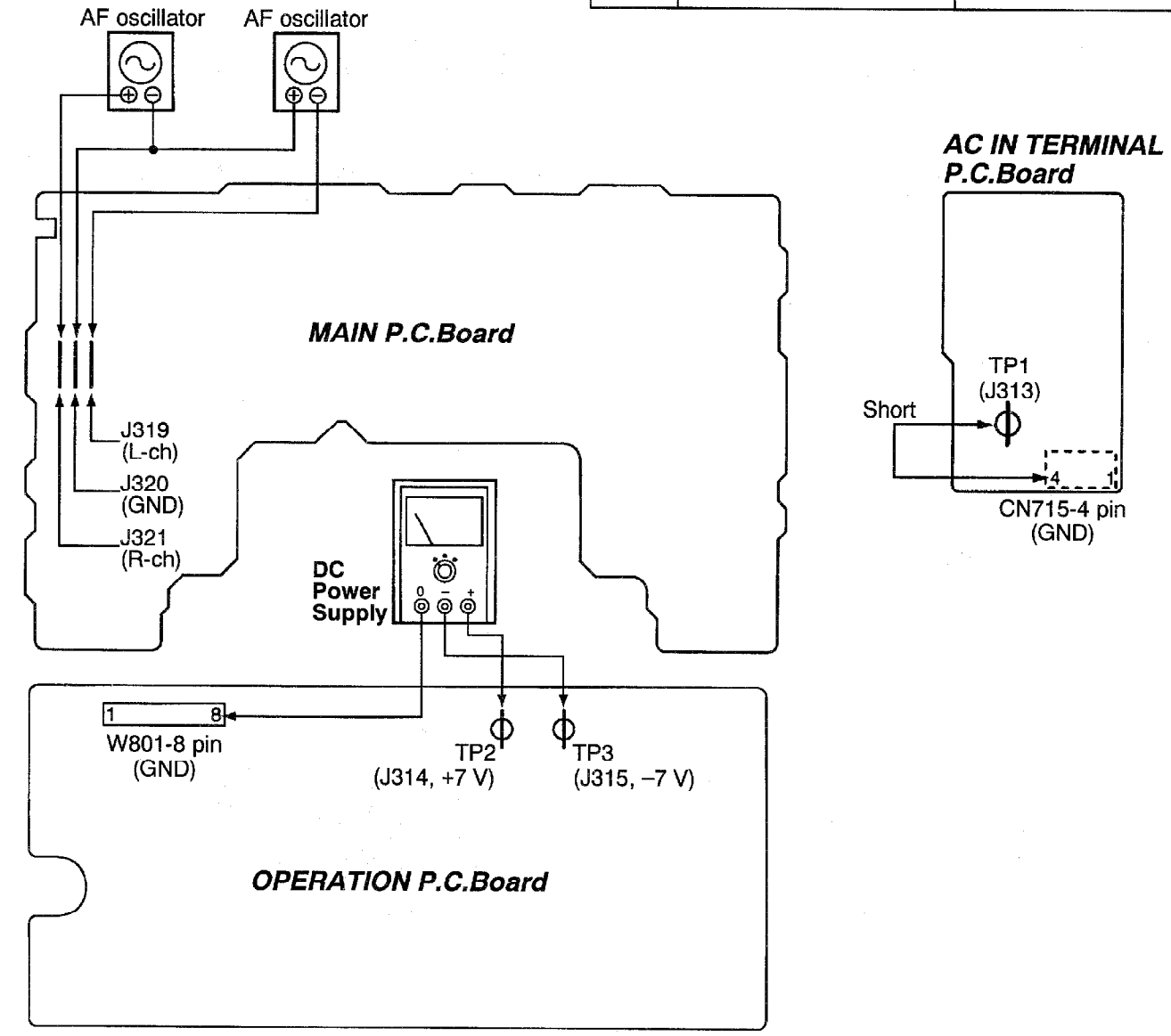
■ To Supply Power Source

1. **Short the section between the points TP1 (J313, +5 V) and CN715-4 pin (GND) on the AC IN TERMINAL P.C.Board.**
2. **Connect the DC Power Supply as shown below.**
   - **2-1. +7 V terminal of the DC Power upply connect to TP2 (J314).**
   - **2-2. GND terminal of the DC Power upply connect to W801-8 pin (D.GND).**
   - **2-3. –7 V terminal of the DC Power upply connect to TP3 (J315).**
3. **Connect this unit SE-HD50 to an AC outlet by the AC Power Cord.**

Operation Check

1. Set the unit to power ON mode.
2. Input a signal (1 kHz, 100 mV), and confirm it to be outputted from the speaker terminal.

	INPUT	OUTPUT
L-ch	J319 Lch ⇔ J320 GND	Lch speaker terminal
R-ch	J321 Lch ⇔ J320 GND	Rch speaker terminal



■ Schematic Diagram

Page
A HEADPHONES JACK CIRCUIT 13
B OPERATION CIRCUIT 13
C MAIN CIRCUIT 14
D PROTECTION CIRCUIT 14
E POWER TRANSFORMER CIRCUIT 14
F AC IN TERMINAL CIRCUIT 14

- **This schematic diagram may be modified at any time with the development of new technology.**

Notes:

- **S801** : Power "STANDBY ⏻ /ON" switch (POWER, STANDBY ⏻ /ON)
- **VR301-1, VR301-2** : Bass control (BASS)
- **VR302-1, VR302-2** : Treble control (TREBLE)
- **VR303** : Balance control (BALANCE)
- **VR801** : Volume control (VOLUME)

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
  No mark: Power ON

- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

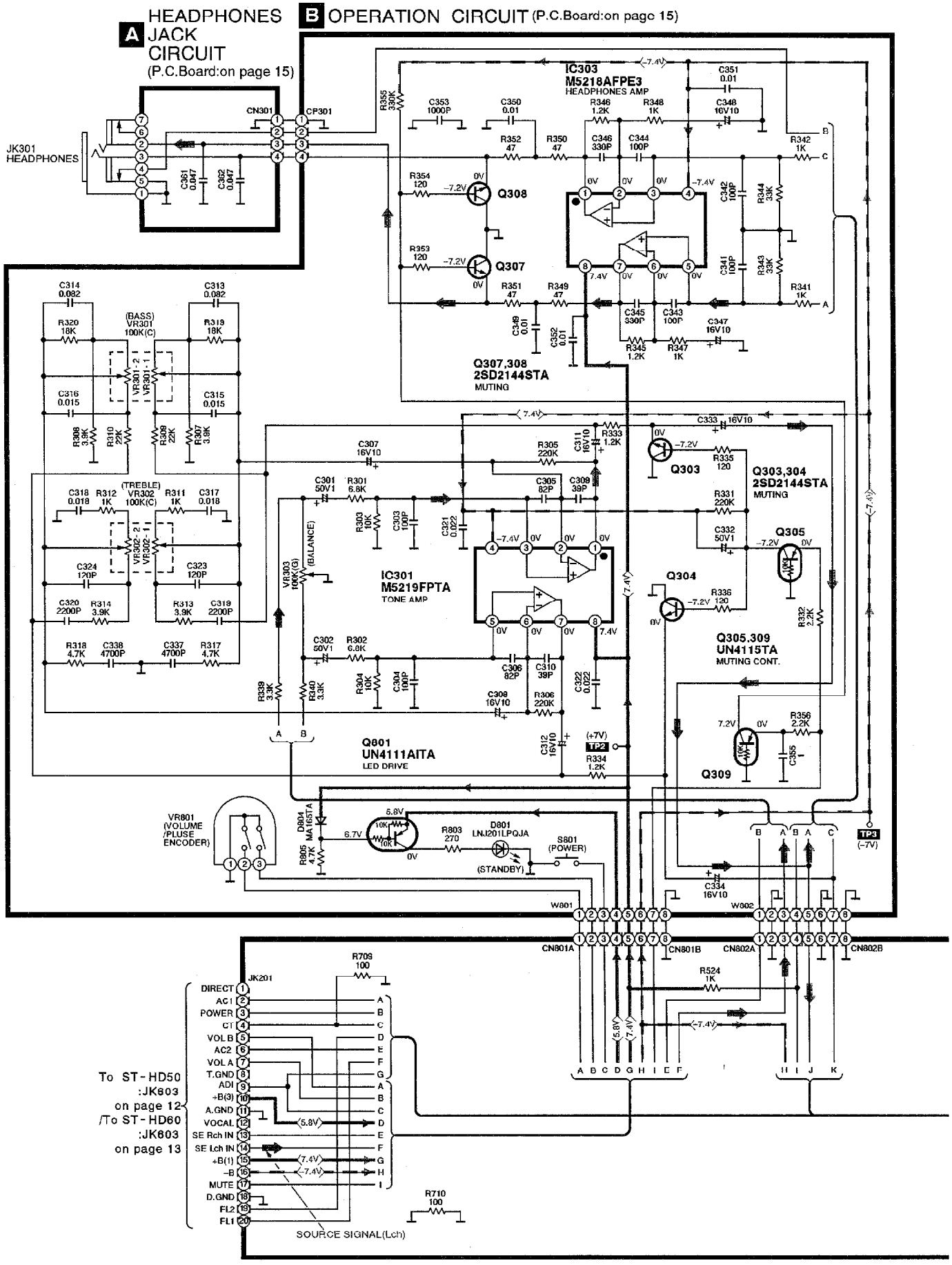
- **Caution!**
  IC and LSI are sensitive to static electricity.
  Secondary trouble can be prevented by taking care during repair.
  Cover the parts boxes made of plastics with aluminum foil.
  Ground the soldering iron.
  Put a conductive mat on the work table.
  Do not touch the legs of IC or LSI with the fingers directly.

- **Voltage and signal line**

: Positive voltage line

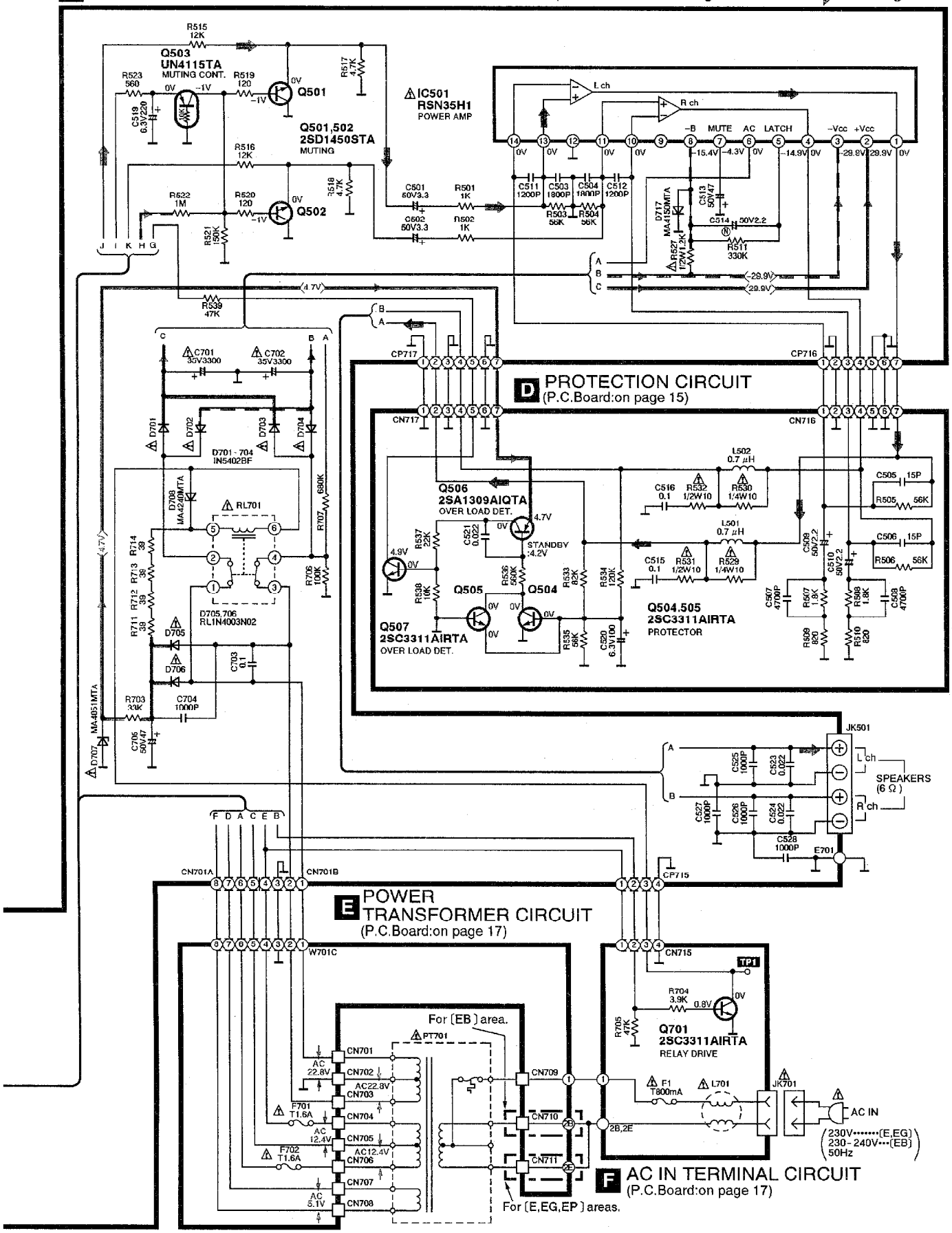
: Positive voltage line

: AM signal line


A HEADPHONES JACK CIRCUIT (P.C.Board:on page 15)
B OPERATION CIRCUIT (P.C.Board:on page 15)
JK301 HEADPHONES
CN301
CP301
IC303 M5218AFPE3 HEADPHONES AMP
Q308
Q307
Q307,308 2SD2144STA MUTING
Q303
Q303,304 2SD2144STA MUTING
Q305
Q304
Q305,309 UN4115TA MUTING CONT.
Q309
IC301 M5219FPTA TONE AMP
Q801 UN4111AITA LED DRIVE
(BASS) VR301 100K(C)
(TREBLE) VR302 100K(C)
VR303 100K(G) (BALANCE)
VR801 (VOLUME /PLUSE ENCODER)
D804 MA165TA
D801 LNJ201LPQJA
(STANDBY)
S801 (POWER)
W801
W802
CN801A
CN801B
CN802A
CN802B
JK201
DIRECT
AC1
POWER
CT
VOL B
AC2
VOL A
T.GND
ADI
+B(3)
A.GND
VOCAL
SE Rch IN
SE Lch IN
+B(1)
-B
MUTE
D.GND
FL2
FL1
SOURCE SIGNAL(Lch)
To ST-HD50 :JK603 on page 12 /To ST-HD60 :JK603 on page 13

C MAIN CIRCUIT (P.C.Board:on page 16)

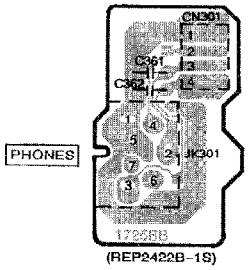
: Positive voltage line
: Positive voltage line
: AM signal line



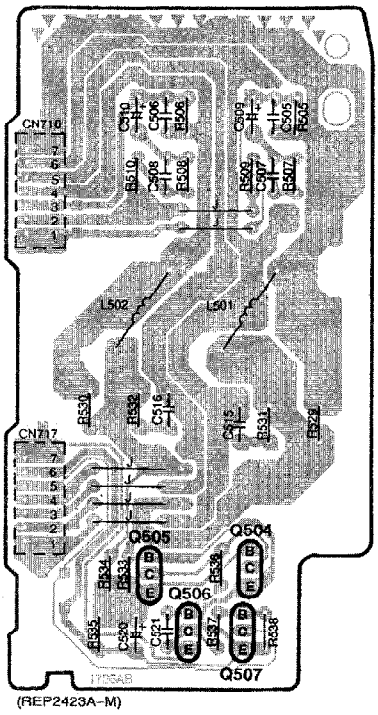
■ Printed Circuit Board Diagram

● This circuit board diagram may be modified at any time with the development of new technology.

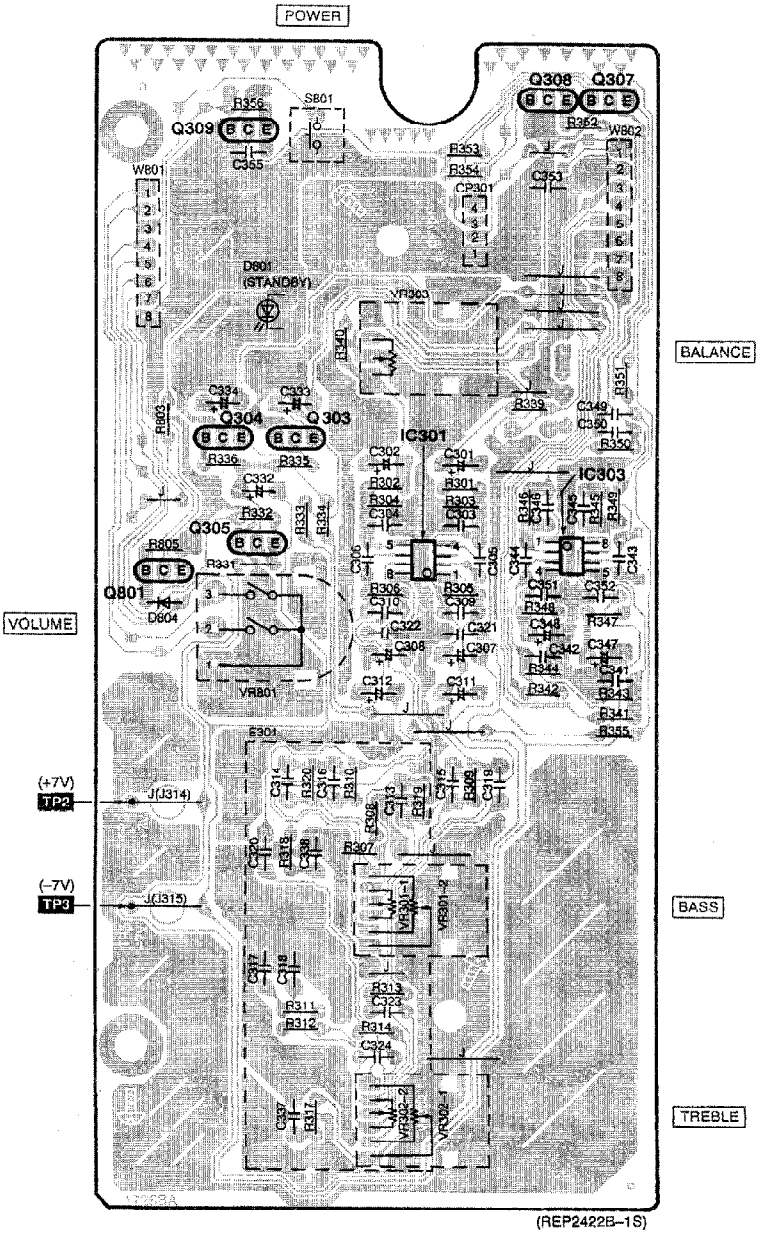
A HEADPHONES JACK P.C.B.



D PROTECTION P.C.B.



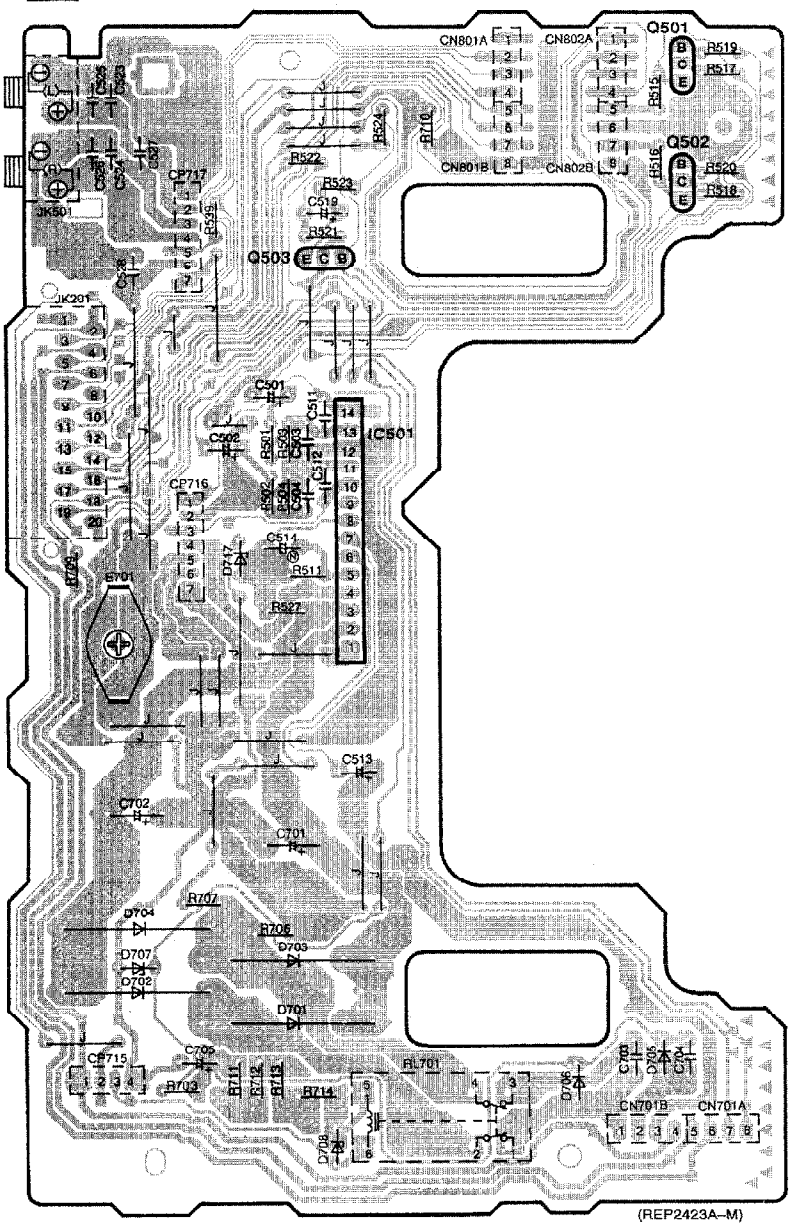
B OPERATION P.C.B.



C MAIN P.C.B.

SPEAKERS (6 Ω)

ST-HD50/ ST-HD60



■ Type Illustration of ICs, Transistors and Diodes

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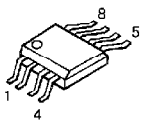
M5219FPTA
  </td>
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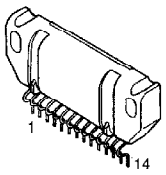
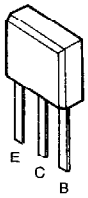
  </td>
<td> 
2SA1309AIQTA
2SC3311AIRTA
2SD1450STA
UN4111AITA
UN4115TA</td>
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 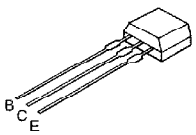 </td>
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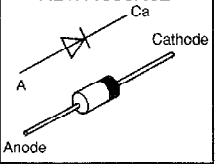
RL1N4003N02
  </td>
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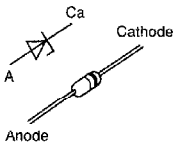
MA4240MTA
  </td>
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 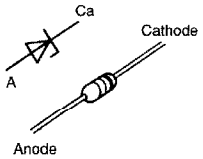 </td>
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 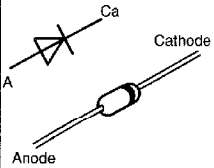 </td>
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 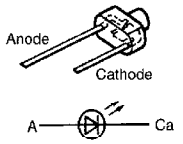 </td>
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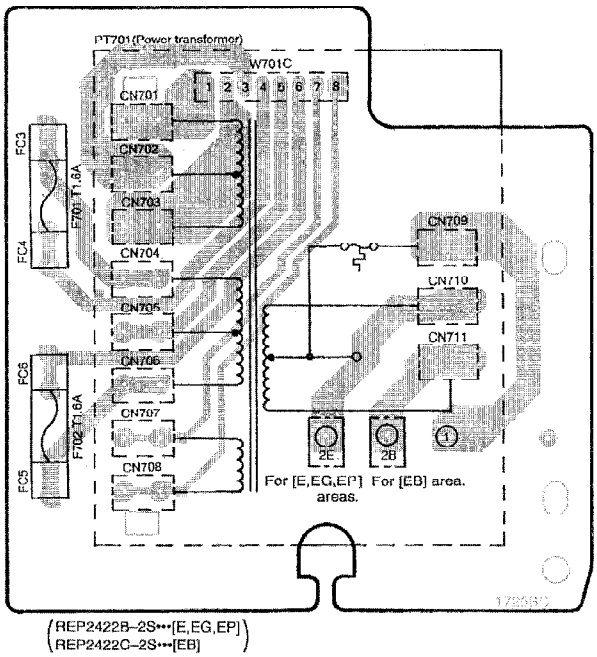
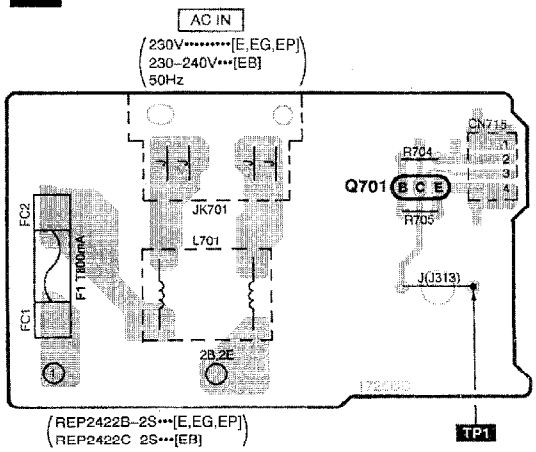
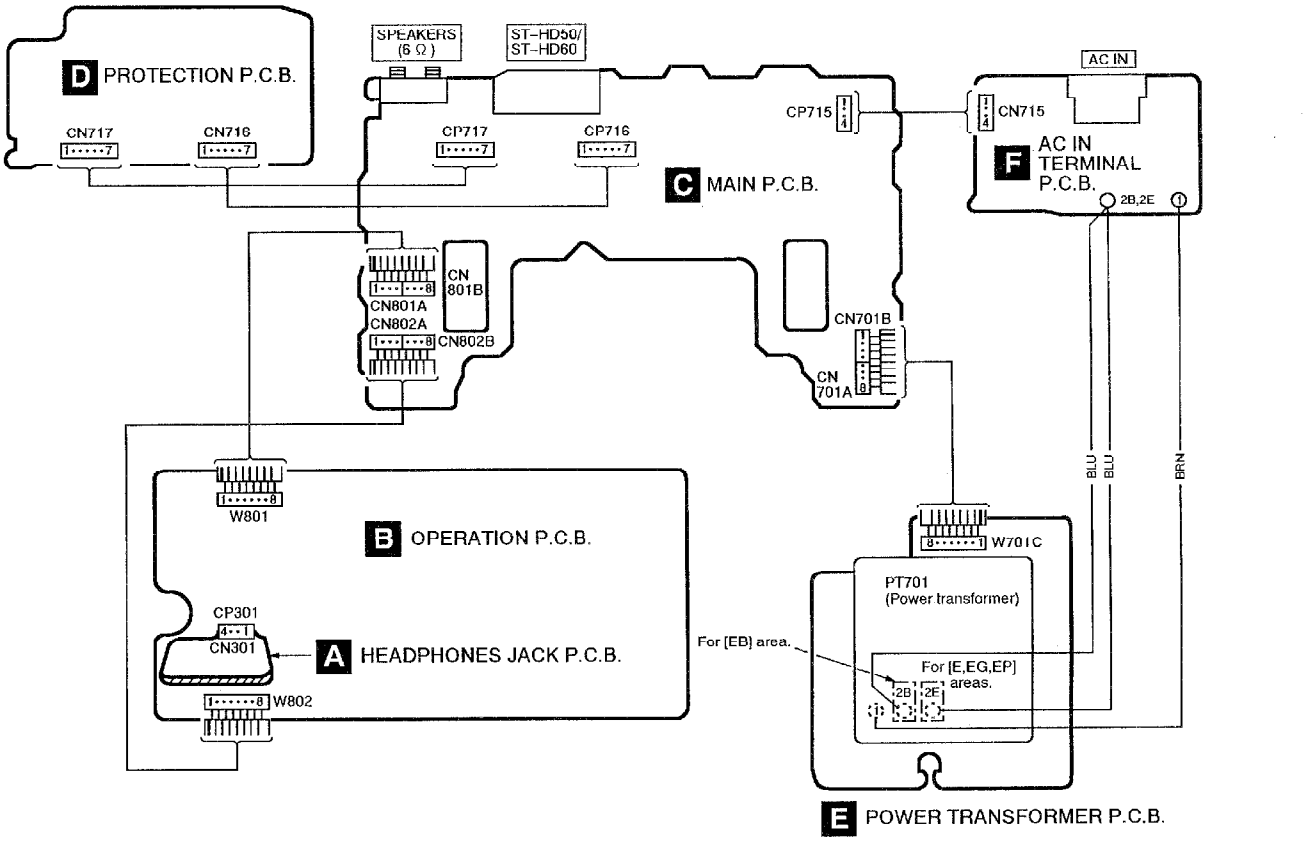
E POWER TRANSFORMER P.C.B.



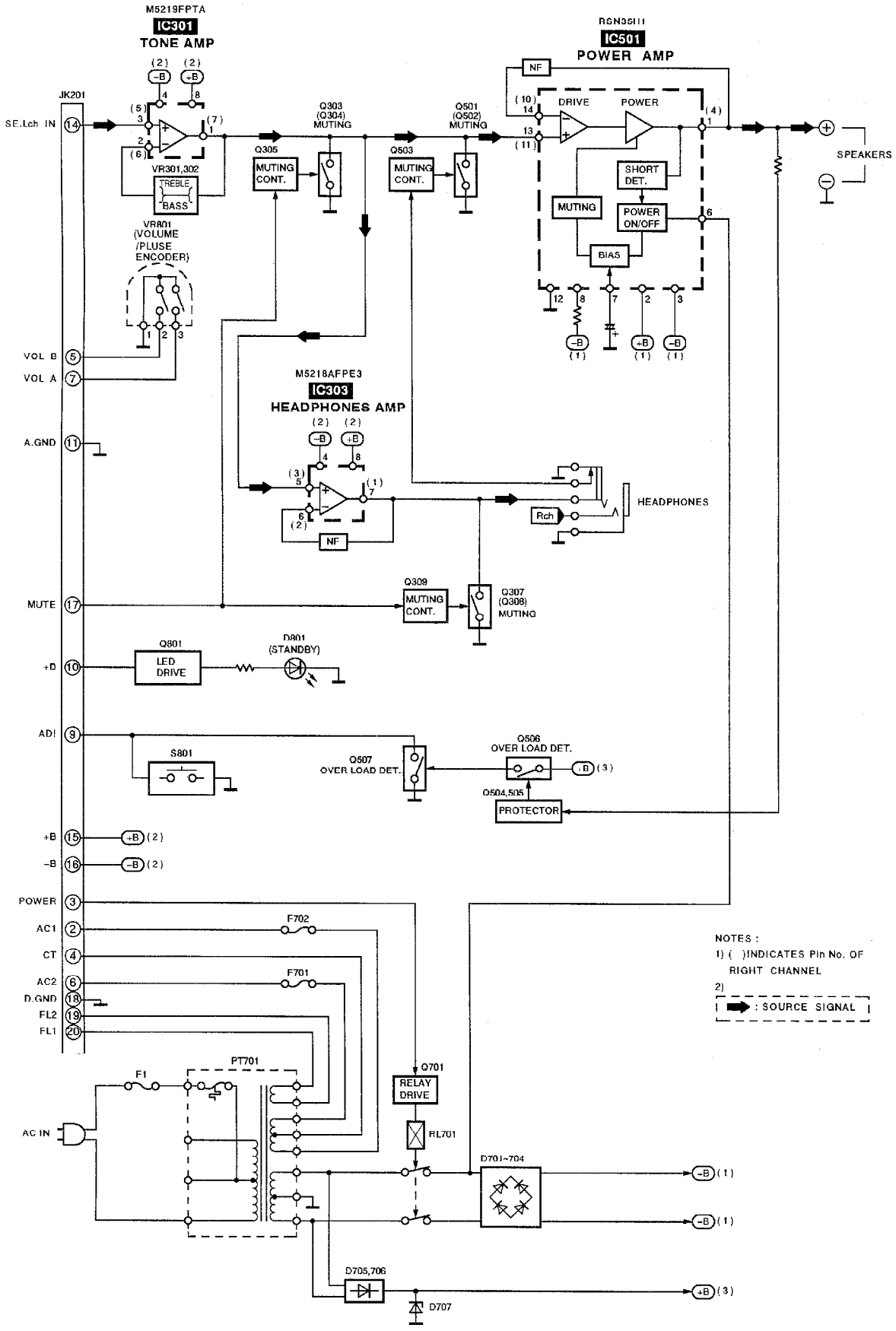
F AC IN TERMINAL P.C.B.



■ Wiring Connection Diagram



■ Block Diagram



■ Replacement Parts List (Electrical)

Notes: *Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.
*[M] Indicates in Remarks columns parts that are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC301	M5219FPTA	IC	[M]
IC303	M5218AFPE3	IC	[M]
IC501⚠	RSN35H1	IC	[M]
		TRANSISTOR(S)	
Q303, 304	2SD2144S	TRANSISTOR	[M]
Q305	UN4115	TRANSISTOR	[M]
Q307, 308	2SD2144S	TRANSISTOR	[M]
Q309	UN4115	TRANSISTOR	[M]
Q501, 502	2SD1450RTA	TRANSISTOR	[M]
Q503	UN4115	TRANSISTOR	[M]
Q504, 505	2SC3311AIRTA	TRANSISTOR	[M]
Q506	2SA1309AIQTA	TRANSISTOR	[M]
Q507	2SC3311AIRTA	TRANSISTOR	[M]
Q701	2SC3311AIRTA	TRANSISTOR	[M]
Q801	UN4111	TRANSISTOR	[M]
		DIODE(S)	
D701-704⚠	1N5402BF	DIODE	[M]
D705, 706⚠	RL1N4003N02	DIODE	[M]
D707⚠	MA4051MTA	DIODE	[M]
D708	MA4240H	DIODE	[M]
D717	MA4150M	DIODE	[M]
D801	LNJ201LPQJA	DIODE(LED)	[M]
D804	MA165	DIODE	[M]
		VARIABLE RESISTOR(S)	
VR301, 302	EVJYA1F04C15	V. R	[M]
VR303	EVJ02QF04G15	V. R	[M]
VR801	EVQWQAF25Z4B	V. R	[M]
		COIL(S)	
L501, 502	SLQY07G 40	COIL	[M]
L701⚠	RLQZ271M	COIL	[M]
		FUSE(S)	
F1⚠	XBA2C08TB0	FUSE	[M]
F701, 702⚠	XBA2C16TB0	FUSE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		SWITCH(ES)	
S801	EVQ21405R	SW	[M]
		CONNECTOR(S)	
CN301	RJU057W004	CONNECTOR(4P)	[M]
CN701-709	RJS1A1101T1	CONNECTOR(1P)	[M]
CN710	RJS1A1101T1	CONNECTOR(1P)	[M] (EB)
CN711	RJS1A1101T1	CONNECTOR(1P)	[M] (E, EG, EP)
CN715	RJU057W004	CONNECTOR(4P)	[M]
CN716, 717	RJU057W007	CONNECTOR(7P)	[M]
CN701A	RJS1A6604	CONNECTOR(4P)	[M]
CN801A	RJS1A6604	CONNECTOR(4P)	[M]
CN802A	RJS1A6604	CONNECTOR(4P)	[M]
CN701B	RJS1A6604	CONNECTOR(4P)	[M]
CN801B	RJS1A6604	CONNECTOR(4P)	[M]
CN802B	RJS1A6604	CONNECTOR(4P)	[M]
CP301	RJT057W004-1	CONNECTOR(4P)	[M]
CP715	RJT057W004-1	CONNECTOR(4P)	[M]
CP716, 717	RJT057W007-1	CONNECTOR(7P)	[M]
		EARTH TERMINAL(S)	
E301	RSC0340	EARTH TERMINAL	[M]
E701	SNE1004-2	EARTH TERMINAL	[M]
		FUSE HOLDER	
FC1-6	EYF52BC	FUSE HOLDER	[M]
		TRANSFORMER(S)	
PT701⚠	RTP2M5B012	POWER TRANSFORMER	[M]
		RELAY(S)	
RL701⚠	RSY0013M-0	RELAY	[M]
		JACK(S)	
JK201	RJT065K20	CONNECTOR(20P)	[M]
JK301	RJJ37TN01-C	HEADPHONES	[M]
JK501	RJR0054M	SPEAKERS	[M]
JK701⚠	SJS9236	AC INLET	[M]

■ Resistors and Capacitors

Notes: *Capacity values are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F)
*Resistance values are in ohms, unless specified otherwise, 1K = 1,000 (OHM) 1M = 1,000k (OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R301, 302	ERDS2TJ682T	1/4W 6.8K [M]
R303, 304	ERDS2TJ103	1/4W 10K [M]
R305, 306	ERDS2TJ224T	1/4W 220K [M]
R307, 308	ERDS2TJ392T	1/4W 3.9K [M]
R309, 310	ERDS2TJ223	1/4W 22K [M]
R311, 312	ERDS2TJ102	1/4W 1K [M]
R313, 314	ERDS2TJ392T	1/4W 3.9K [M]
R317, 318	ERDS2TJ472	1/4W 4.7K [M]
R319, 320	ERDS2TJ183T	1/4W 18K [M]
R331	ERDS2TJ224T	1/4W 220K [M]
R332	ERDS2TJ222	1/4W 2.2K [M]
R333, 334	ERDS2TJ122	1/4W 1.2K [M]
R335, 336	ERDS2EJ121	1/4W 120 [M]
R339, 340	ERDS2TJ332	1/4W 3.3K [M]
R341, 342	ERDS2TJ102	1/4W 1K [M]
R343, 344	ERDS2TJ333	1/4W 33K [M]
R345, 346	ERDS2TJ122	1/4W 1.2K [M]
R347, 348	ERDS2TJ102	1/4W 1K [M]
R349-352	ERDS2TJ470	1/4W 47 [M]
R353, 354	ERDS2EJ121	1/4W 120 [M]
R355	ERDS2TJ334	1/4W 330K [M]
R356	ERDS2TJ222	1/4W 2.2K [M]
R501, 502	ERDS2TJ102	1/4W 1K [M]
R503-506	ERDS2TJ563	1/4W 56K [M]
R507, 508	ERDS2TJ182	1/4W 1.8K [M]
R509, 510	ERDS2TJ821	1/4W 820 [M]
R511	ERDS2TJ334	1/4W 330K [M]
R515, 516	ERDS2TJ123	1/4W 12K [M]
R517, 518	ERDS2TJ472	1/4W 4.7K [M]
R519, 520	ERDS2EJ121	1/4W 120 [M]
R521	ERDS2TJ154	1/4W 150K [M]
R522	ERDS2TJ105T	1/4W 1M [M]
R523	ERDS2TJ561	1/4W 560 [M]
R524	ERDS2TJ102	1/4W 1K [M]
R527⚠	ERDS1FJ122	1/2W 1.2K [M]
R529, 530⚠	ERD25FVJ100T	1/4W 10 [M]
R531, 532⚠	ERDS1FVJ100T	1/2W 10 [M]
R533	ERDS2TJ823T	1/4W 82K [M]
R534	ERDS2TJ124T	1/4W 120K [M]
R535	ERDS2TJ563	1/4W 56K [M]
R536	ERDS2TJ564	1/4W 560K [M]
R537	ERDS2TJ223	1/4W 22K [M]
R538	ERDS2TJ103	1/4W 10K [M]
R539	ERDS2TJ473	1/4W 47K [M]
R703	ERDS2TJ333	1/4W 33K [M]
R704	ERDS2TJ392T	1/4W 3.9K [M]
R705	ERDS2TJ473	1/4W 47K [M]
R706	ERDS2TJ104	1/4W 100K [M]
R707	ERDS2TJ684	1/4W 680K [M]
R709, 710	ERDS2TJ101	1/4W 100 [M]
R711-714	ERDS2TJ390	1/4W 39 [M]
R803	ERDS2TJ271	1/4W 270 [M]
R805	ERDS2TJ472	1/4W 4.7K [M]
		CAPACITORS
C301, 302	ECEA1HKA010B	50V 1U [M]
C303, 304	ECBT1H101KB5	50V 100P [M]
C305, 306	ECBT1H820KB5	50V 82P [M]
C307, 308	RCE1CKA100BG	16V 10U [M]
C309, 310	ECBT1H390J5	50V 39P [M]
C311, 312	RCE1CKA100BG	16V 10U [M]
C313, 314	ECQV1H823JM3	50V 0.082U [M]
C315, 316	ECQB1H153JF3	50V 0.015U [M]
C317, 318	ECQB1H183JF3	50V 0.018U [M]
C319, 320	ECQB1H222JF3	50V 2200P [M]
C321, 322	ECBT1E223ZF	25V 0.022U [M]
C323, 324	ECBT1H121KB5	50V 120P [M]
C332	ECEA1HKA010B	50V 1U [M]
C333, 334	RCE1CKA100BG	16V 10U [M]
C337, 338	ECQB1H472JF3	50V 4700P [M]
C341-344	ECBT1H101KB5	50V 100P [M]
C345, 346	ECBT1H331KB5	50V 330P [M]
C347, 348	RCE1CKA100BG	16V 10U [M]
C349-352	ECBT1E103ZF	25V 0.01U [M]
C353	ECBT1H102KB5	50V 1000P [M]
C355	ECBT1C105ZF5	16V 1U [M]
C361, 362	ECBT1H473ZF5	50V 0.047U [M]
C501, 502	RCE1HKA3R3BG	50V 3.3U [M]
C503, 504	ECBT1C182KR5	16V 1800P [M]
C505, 506	ECBT1H150J5	50V 15P [M]
C507, 508	ECBT1C472KR5	16V 4700P [M]
C509, 510	ECEA1HKA2R2B	50V 2.2U [M]
C511, 512	ECBT1C122KR5	16V 1200P [M]
C513	ECA1HM470B	50V 47U [M]
C514	ECEA1HKN2R2B	50V 2.2U [M]
C515, 516	ECQV1H104JM3	50V 0.1U [M]
C519	ECEA0JKA221B	6.3V 220U [M]
C520	ECEA0JKA101B	6.3V 100U [M]
C521	ECBT1E223ZF	25V 0.022U [M]
C523, 524	ECBT1E223ZF	25V 0.022U [M]
C525-528	ECBT1H102KB5	50V 1000P [M]
C701, 702⚠	ECA1VM332B	35V 3300U [M]
C703	ECQE1104KF3	100V 0.1U [M]
C704	ECKR2H102ZF5	500V 1000P [M]
C705	ECA1HM470B	50V 47U [M]

■ Replacement Parts List (Cabinet, Packing, Accessories and Jig/Tool)

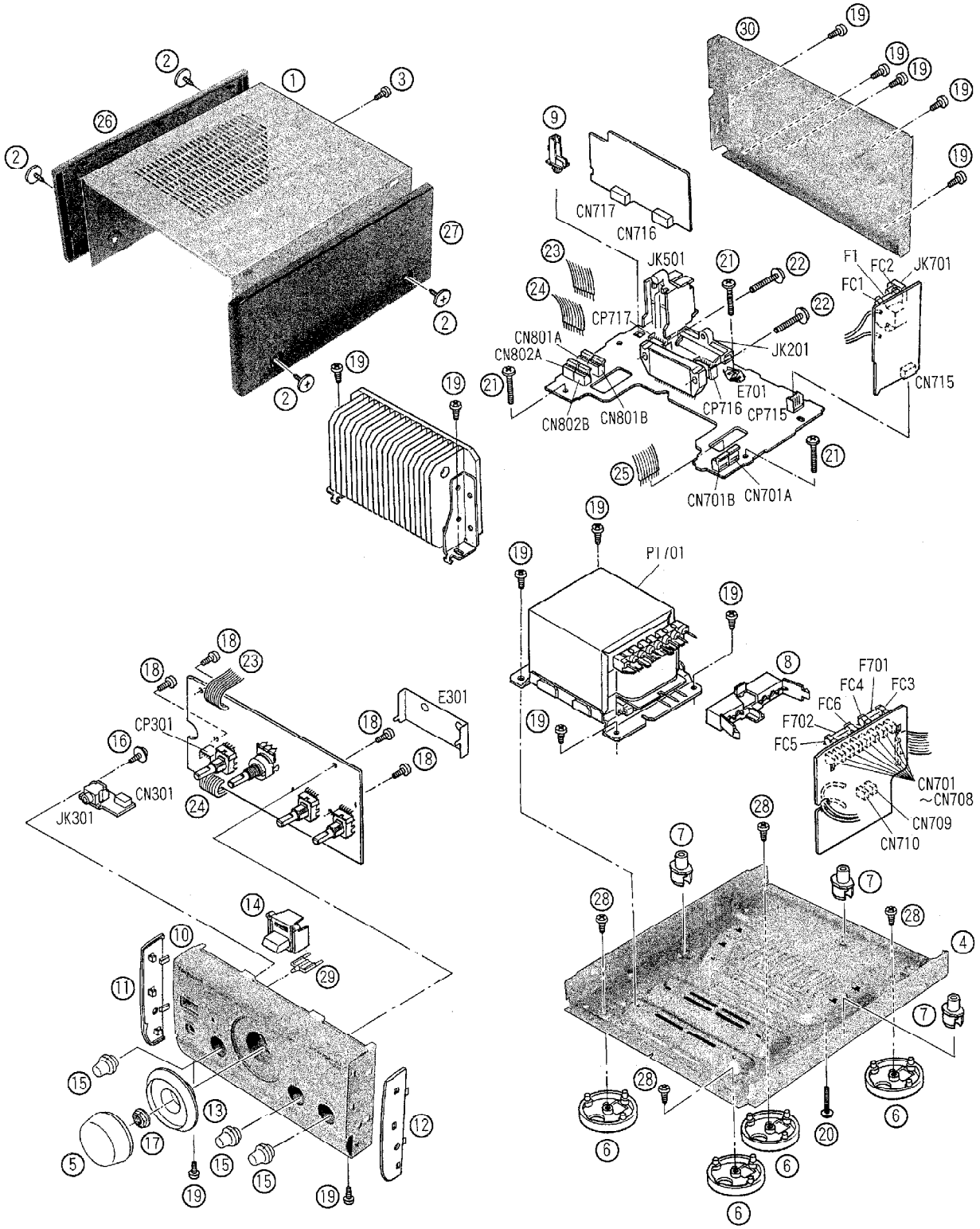
Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RKM0326F-S	CABINET	[M]
2	RHD30073-K	SCREW	[M]
3	XTBS3+10JFZ1	SCREW	[M]
4	RMK0342-2	CHASSIS	[M]
5	RGW0247-S1	KNOB, VOLUME	[M]
6	RKA0076-N	FOOT	[M]
7	RKQ0089-2	P. C. B. SPACER	[M]
8	RMN0191	P. C. B. HOLDER	[M]
9	RMN0203	P. C. B. HOLDER	[M]
10	RFKGEHD50EN	FRONT PANEL ASS'Y	[M]
11	RGK0810-N	ORNAMENT	[M]
12	RGK0811-N	ORNAMENT	[M]
13	RGK0815-N	ORNAMENT	[M]
14	RGU1392-S	BUTTON, POWER	[M]
15	RGW0198-S	KNOB, TONE	[M]
16	RHD26016	SCREW	[M]
17	SNE4021-1	NUT	[M]
18	XTBS26+8J	SCREW	[M]
19	XTBS3+8JFZ1	SCREW	[M]
20	XTB3+12JFZ	SCREW	[M]
21	XTB3+20JFZ	SCREW	[M]
22	XTW3+15T	SCREW	[M]
23	RWJ1808190KX	FLAT CABLE (W801/8P)	[M]
24	RWJ1808160KX	FLAT CABLE (W802/8P)	[M]
25	RWJ1808090KX	FLAT CABLE (W701/8P)	[M]
26	RGK0808-M	ORNAMENT	[M]
27	RGK0809-M	ORNAMENT	[M]
28	XTB3+6G	SCREW	[M]
29	RGL0333-1Q	PANEL LIGHT	[M]
30	RGR0241A-L	REAR PANEL	[M] (E/EG/EP)
30	RGR0241A-M	REAR PANEL	[M] (EB)
		PACKING MATERIALS	
P1	RPG3403	GIFT BOX (AMPLIFIER)	[M] (E/EB/EG)
P1	RPG3528	GIFT BOX (AMP. /DECK)	[M] (EP)
P1	RPG3405	GIFT BOX (TUNER)	[M] (E/EB)
P1	RPG3435	GIFT BOX (TUNER)	[M] (EG)
P1	RPG3529	GIFT BOX (TUNER/CD)	[M] (EP)
P1	RPG3404	GIFT BOX (CD)	[M] (E/EB/EG)
P1	RPG3174	GIFT BOX (DECK)	[M] (E/EB/EG)
P2	RPQ0731	PAD (ACCESSORY)	[M] (E/EB/EG)
P2	RPQ0771	PAD (ACCESSORY)	[M] (EP)
P3	RPN0970	PAD (AMPLIFIER)	[M]
P3	RPN0971	PAD (TUNER/CD)	[M]
P3	RPN1008	PAD (DECK)	[M] (E/EB/EG)
P3	RPN0970	PAD (DECK)	[M] (EP)
P4	SPP740	SHEET	[M]
P5	RPF0139	POLYETHYLENE COVER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
P6	RPG3530	GIFT BOX (SYSTEM)	[M] (EP)
		ACCESSORIES	
A1	RAK-CH215WH	REMOTE CONTROL TRANSMITTER	[M] (E, EB, EP)
A1	RAK-CH193WH	REMOTE CONTROL TRANSMITTER	[M] (EG)
A1-1	RKK0057-K	BATTERY COVER	[M]
A2	REE0393	SPEAKER CORD	[M]
A3	REX0608	FLAT CABLE (20P)	[M]
A4	REX0812	FLAT CABLE (19P)	[M]
A5	REX0813	SYSTEM CONNECTOR	[M]
A6⚠	RJA0019-2K	AC POWER SUPPLY CORD	[M] (E, EG, EP)
A6⚠	RJA0053 1X	AC POWER SUPPLY CORD	[M] (EB)
A7	RQA0117	WARRANTY CARD	[M]
A8	RQCB0169	SERVICENTER	[M]
A9	RQT3840-E	INSTRUCTION MANUAL	[M] (E) <IA>
A9	RQT3842-B	INSTRUCTION MANUAL	[M] (EB/EP) <IB>
A9	RQT3841-D	INSTRUCTION MANUAL	[M] (EG) <IC>
A9	RQT3862-H	INSTRUCTION MANUAL	[M] (EG) <ID>
A9	RQT4009-R	INSTRUCTION MANUAL	[M] (EP) <IE>
A10	RSA0007	FM INDOOR ANTENNA	[M]
A11	RSA0021	AM LOOP ANTENNA	[M]
A12	RQCA0527	QUICK SET UP GUIDE	[M] (EB)
A13	SJP9009	ANTENNA PLUG ADAPTER	[M] (EB)
		JIG/TOOL	
SA1	RFKX0002	GREASE	[M]

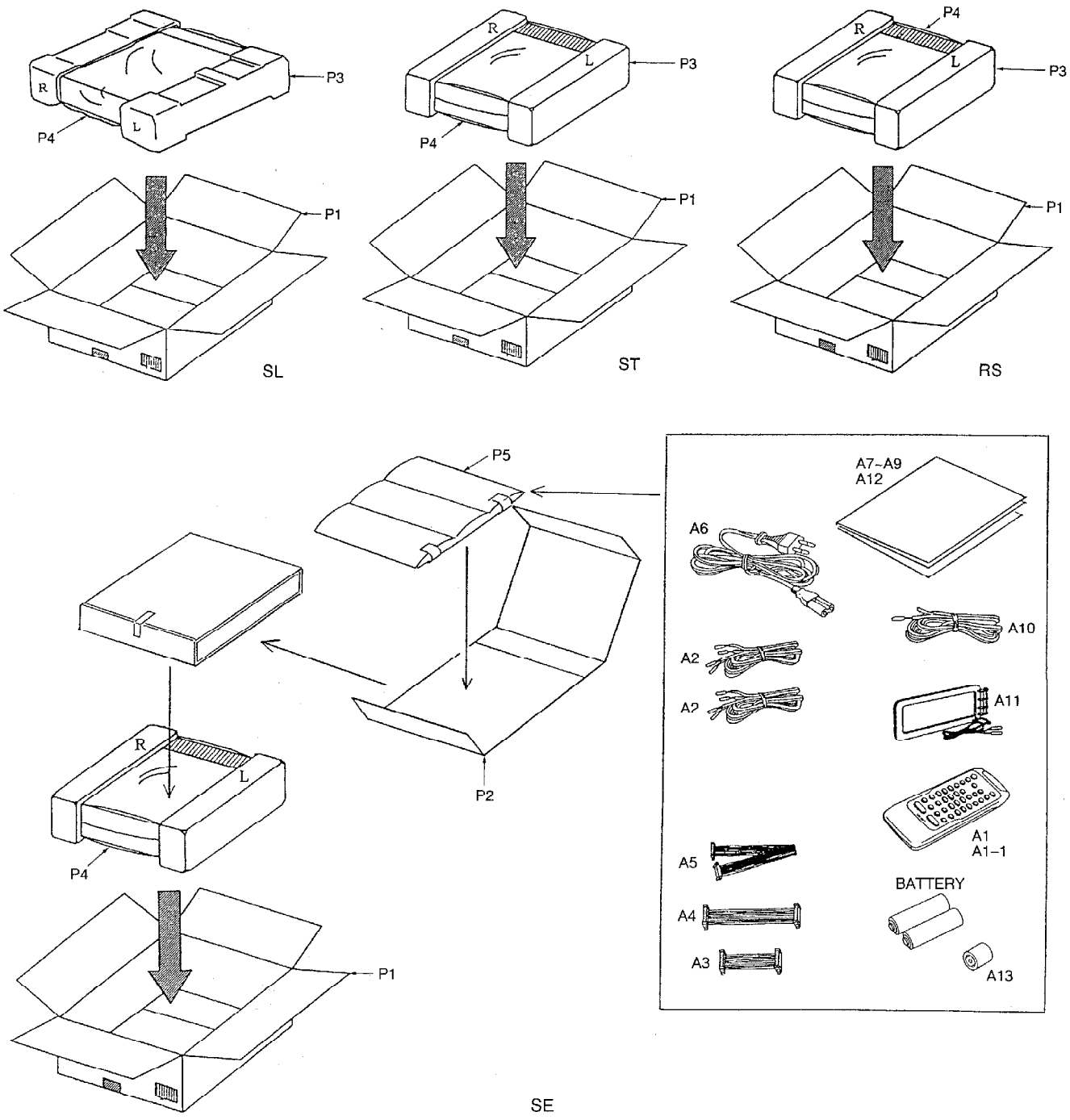
Note : The "< IA >, < IB >, < IC >, < ID >, < IE >" mark in Remarks indicate language of instruction manual.

< IA > : French, Spanish, Swedish
< IB > : English
< IC > : German, Italian, French
< ID > : Dutch, Danish
< IE > : Russian, Polish, Czeco

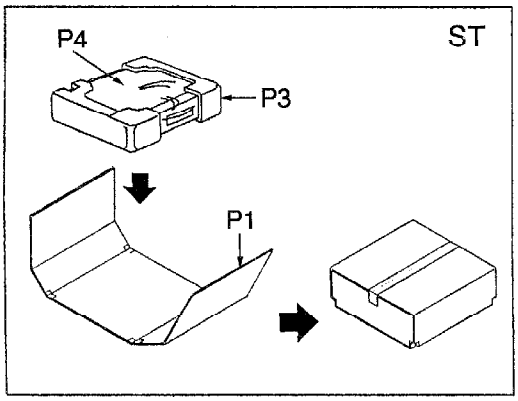
■ Cabinet Parts Location

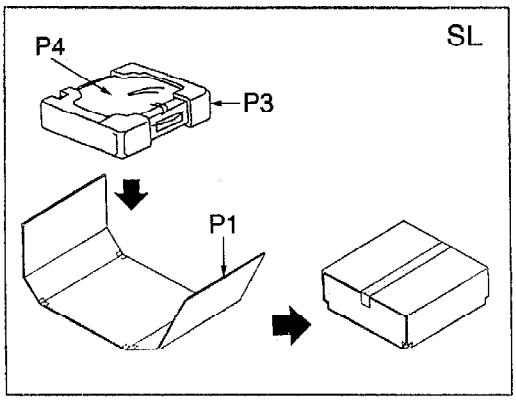


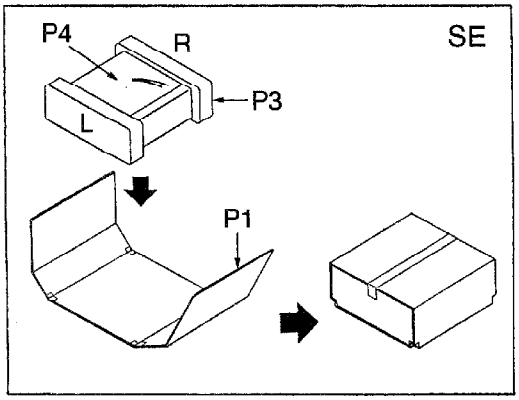
■ Packaging

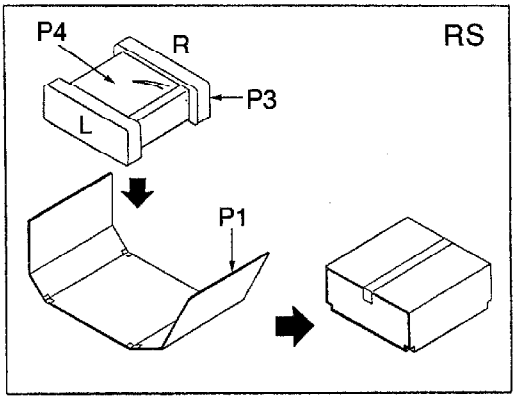


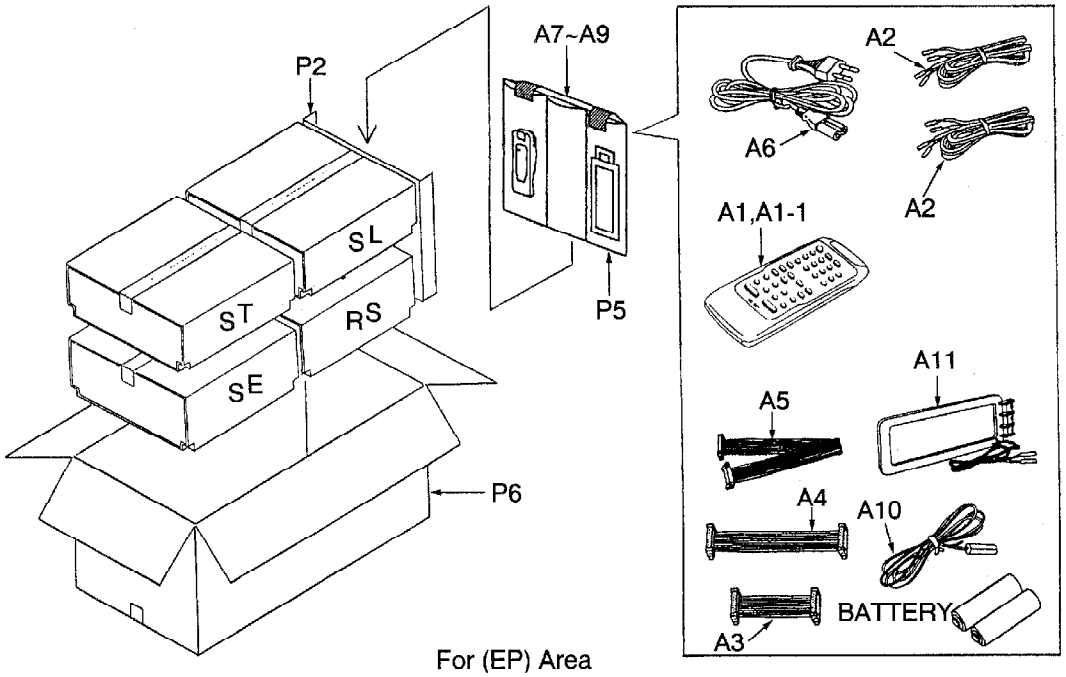
For (E), (EB), (EG) Area











For (EP) Area

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